

Title (en)

COMPOUND, THERMOELECTRIC CONVERSION MATERIAL, AND METHOD FOR PRODUCING COMPOUND

Title (de)

VERBINDUNG, MATERIAL ZUR THERMOELEKTRISCHEN UMWANDLUNG UND VERFAHREN ZUR HERSTELLUNG DER VERBINDUNG

Title (fr)

COMPOSÉ, MATÉRIAU DE CONVERSION THERMOÉLECTRIQUE ET PROCÉDÉ DE PRODUCTION D'UN COMPOSÉ

Publication

EP 3439052 A4 20191009 (EN)

Application

EP 17775448 A 20170330

Priority

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- JP 2017013370 W 20170330

Abstract (en)

[origin: EP3439052A1] The present invention relates to a compound containing at least germanium, tellurium, bismuth and copper as constituent elements, wherein the longest axis of ubiquitous bismuth crystals and copper crystals is less than 2.0 μm .

IPC 8 full level

H10N 10/852 (2023.01); **C01B 19/00** (2006.01); **C22C 28/00** (2006.01); **H10N 10/01** (2023.01); **H10N 10/13** (2023.01); **H10N 10/17** (2023.01); **H10N 10/853** (2023.01)

CPC (source: EP KR US)

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Citation (search report)

- [X] US 2015069284 A1 20150312 - MURAI JUNYA [JP], et al
- [A] GB 952678 A 19640318 - WFSTINGHOUSE ELECTRIC CORP
- [X] KLIKORKA J ET AL: "Some physical properties of Ternary germanium bismuth telluride (GeBi₄Te₇) semiconducting crystals", JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, PERGAMON PRESS, LONDON, GB, vol. 37, no. 5, 1 January 1976 (1976-01-01), pages 477 - 479, XP024582010, ISSN: 0022-3697, [retrieved on 19760101], DOI: 10.1016/0022-3697(76)90072-X
- [AD] DATABASE INSPEC [online] THE INSTITUTION OF ELECTRICAL ENGINEERS, STEVENAGE, GB; September 1982 (1982-09-01), ABRIKISOV N KH ET AL: "Doping of germanium telluride with bismuth and copper", XP002793750, Database accession no. 2133791 & INORGANIC MATERIALS USA, vol. 18, no. 9, 1 September 1982 (1982-09-01), pages 1286 - 1504, ISSN: 0020-1685
- See also references of WO 2017170914A1

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DOCDB simple family (application)

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